


**LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT**  
**Minimum Design Guidelines for Freeways**

State law requires that the state highway system conform to these guidelines.

Item No.	Item	Urban		Rural
		F-1	F-2	F-3 <sup>1</sup>
1	Design Speed (mph)	50	60	70
2	Level of Service	C <sup>3</sup>	C <sup>3</sup>	B <sup>2</sup>
3	Number of Lanes (minimum)	4	4	4
4	Width of Travel Lanes (ft)	12	12	12
5	Width of Shoulders (ft)			
	(a) Inside <sup>4</sup>	6	6	6
	(b) Outside <sup>5</sup>	10	10	10
6	Shoulder Type	Paved	Paved	Paved
7	Width of Median (minimum) (ft)			
	(a) Depressed	50	68 (min) – 100 (des)	72 (min) – 100 (des)
	(b) Continuous barrier (4 lane) <sup>6</sup>	15	15	15
	Continuous barrier (6 lane) <sup>6</sup>	27	27	27
8	Fore Slope (vertical – horizontal)	1:4 – 1:6	1:6	1:6
9	Back Slope (vertical – horizontal)	1:4	1:4	1:4
10	Pavement Cross Slope (%)	2.5	2.5	2.5
11	Minimum Stopping Sight Distance (ft)	425	570	730
12	Maximum Superelevation (%) <sup>7</sup>	10	10	10
13	Minimum Radius (ft) <sup>8</sup> (with 10% superelevation)	700	1,100	1,700
14	Maximum Grade (%) <sup>9</sup>	4	3	3
15	Minimum Vertical Clearance (ft) <sup>10</sup>	16	16	16
16	Width of Right-of-Way (ft)			
	(a) Depressed median	As Needed	As Needed	Varies <sup>11</sup>
	(b) Median barrier	As Needed	As Needed	As Needed
	(c) Minimum from edge of bridge structure <sup>12</sup>	15 – 20	15 – 20	15 – 20
17	Bridge Design Live Load <sup>13</sup>	AASHTO	AASHTO	AASHTO
18	Minimum Width of Bridges (face to face of bridge rail at gutter line) (ft)	Roadway Width	Roadway Width	Roadway Width
19	Minimum Clear Zone (from edge of through travel lane) (ft)			
	(a) 1:4 Fore slope	30	N/A	N/A
	(b) 1:6 Fore slope	22	32	34

Approved   
Chief Engineer

12-4-09  
Date

# LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

## Footnotes for Minimum Design Guidelines for Freeways

1. These guidelines may be used in urban areas.
2. Level of Service C can be used in urban areas.
3. Level of Service D can be used in heavily developed urban areas.
4. Four feet to be paved, 10 feet to be paved on 6 lane facilities, 12 feet to be paved on 6 lane facilities with truck DDHV greater than 250.
5. Twelve feet paved when truck DDHV is greater than 250.
6. For larger medians two barriers may be required. The maximum offset of 15 feet from barrier to edge of travel lane shall not be exceeded.
7. In Districts 04 and 05, where ice is more frequent, superelevation should not exceed 8 percent from the  $e_{max} = 10\%$  table.
8. It may be necessary to increase the radius of the curve and/or increase the shoulder width (maximum of 12 feet) to provide adequate stopping sight distance on structure.
9. Grades 1 percent higher may be used in urban areas.
10. An additional 6 inches should be added for additional future surfacing. Seventeen feet is required for trusses and pedestrian overpasses.
11. As needed for urban projects: 300 feet to 330 feet for rural projects depending on median width.
12. Twenty-five feet shall generally be provided in accordance with EDSM II.1.1.1.
13. LRFD for bridge design.


### General Note:

DOTD pavement preservation minimum design guidelines or 3R minimum design guidelines (separate sheets) shall be applicable to those projects for which the primary purpose is to improve the riding surface.

**LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT**  
**Minimum Design Guidelines for Rural Arterial Roads**

State law requires that the state highway system conform to these guidelines.

Item No.	Item	Rural		
		RA-1	RA-2	RA-3
1	Design Speed (mph)	50 <sup>1</sup>	60 <sup>2</sup>	70
2	Number of Lanes (minimum) <sup>3</sup>	2	2	4
3	Width of Travel Lanes (ft)	11 – 12 <sup>4</sup>	12	12
4	Width of Shoulders (minimum) (ft)			
	(a) Two Lane	8 <sup>5</sup>	8 <sup>5</sup>	N/A
	(b) Divided facilities			
	(1) Inside <sup>8</sup>	4	4	4 <sup>6</sup>
	(2) Outside	8 <sup>5</sup>	8 <sup>5</sup>	8 – 10 <sup>7</sup>
5	Shoulder Type	Aggregate (2' min paved)	Aggregate (2' min paved)	Aggregate <sup>8</sup> (2' min paved)
6	Parking Lane Width (ft)	N/A	N/A	N/A
7	Width of Median on Divided Facilities (ft)			
	(a) Depressed	42 – 60	42 – 60	60
	(b) Raised	N/A	N/A	N/A
	(c) Two way left turn lane	N/A	N/A	N/A
8	Fore slope (vertical – horizontal)	1:6	1:6	1:6
9	Back slope (vertical – horizontal)	1:4	1:4	1:4
10	Pavement Cross-slope (%)	2.5	2.5	2.5
11	Minimum Stopping Sight Distance (ft)	425	570	730
12	Maximum Superelevation (%) <sup>9</sup>	10	10	10
13	Minimum Radius (ft) <sup>10</sup> (with full superelevation)	700	1,100	1,700
14	Maximum Grade (%) <sup>11</sup>	4	3	3
15	Minimum Vertical Clearance (ft) <sup>12</sup>	16	16	16
16	Minimum Clear Zone (ft) (from edge of through travel lane)	20	30 <sup>13</sup>	34
17	Bridge Design Live Load <sup>14</sup>	AASHTO	AASHTO	AASHTO
18	Width of Bridges (min) (face to face of bridge rail at gutter line) (ft)	Roadway width	Roadway width	Roadway width

Approved   
 Chief Engineer

12-4-09  
 Date

# LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

## Footnotes for Minimum Design Guidelines for Rural Arterial Roads

1. The design speed may not be less than the current posted speed of the overall route.
2. Consider using RA-3 criteria (except Item No. 2) for roadways that will be widened in the future.
3. Consider increasing to a 4-lane facility if design volume is greater than 6,000 vehicles per day and six lanes if design volume is greater than 25,000 vehicles per day. If more than two lanes are to be provided, outside shoulders should be paved.
4. Twelve feet required when design ADT is 1,500 or greater.
5. Six foot shoulders are allowed if design volume is between 400 to 2,000 vehicles per day. Four foot shoulders are allowed if design volume is less than 400 vehicles per day.
6. Eight to ten feet to be provided on six lane facilities.
7. Consider using 10 foot outside shoulders where trucks are greater than 10 percent or if large agricultural vehicles use the roadway.
8. For ADT 5,000 or greater, the full shoulder width shall be paved.
9. In Districts 04 and 05, where ice is more frequent, superelevation should not exceed 8 percent from the  $e_{max} = 10$  percent table.
10. It may be necessary to increase the radius of the curve and/or increase the shoulder width (maximum of 12 feet) to provide adequate stopping sight distance on structure.
11. Grades 1 percent higher are permissible in rolling terrain.
12. An additional 6 inches should be added for additional future surfacing.
13. On multilane facilities, use 32 feet.
14. LRFD for bridge design.

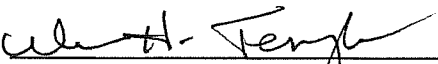
### General Note:

DOTD pavement preservation minimum design guidelines or 3R minimum design guidelines (separate sheets) shall be applicable to those projects for which the primary purpose is to improve the riding surface.

**LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT**  
**Minimum Design Guidelines for Urban Arterial Roads and Streets**

State law requires that the state highway system conform to these guidelines.

Item No.	Item	Urban				
		UA-1	UA-2	UA-3	UA-4	UA-5
1	Design Speed (mph)	40	45	50	55	60
2	Level of Service <sup>1</sup>	C	C	C	C	C
3	Number of Lanes	2 (min) – 4 (typ)	2 (min) – 4 (typ)	2 (min) – 4 (typ)	2 (min) – 4 (typ)	2 (min) – 4 (typ)
4	Width of Travel Lanes (ft)	11	11 – 12	12	12	12
5	Width of Shoulders (minimum) (ft) <sup>2</sup>					
	(a) Inside on multilane facilities	N/A	N/A	4	4	4
	(b) Outside	8	8	8	8	8
6	Shoulder Type	Paved	Paved	Paved	Paved	Paved
7	Parking Lane Width (ft)	10 – 12	10 – 12	N/A	N/A	N/A
8	Width of Median on Multilane Facilities (ft)					
	(a) Depressed	N/A	N/A	30	34 – 42	42
	(b) Raised	6 <sup>3</sup> – 30	6 <sup>3</sup> – 30	30	30	30
	(c) Two way left turn lane	11 – 14 typ. <sup>4</sup>	11 – 14 typ. <sup>4</sup>	N/A	N/A	N/A
9	Width of Sidewalk (minimum) (where used) (ft) <sup>5</sup>					
	(a) When offset from curb	4	4	4	4	4
	(b) When adjacent to curb	6	6	N/A	N/A	N/A
10	Fore slope (vertical – horizontal)	1:3 (min) – 1:4 (des)	1:3 (min) – 1:4 (des)	1:4	1:6	1:6
11	Back slope (vertical – horizontal)	1:3	1:3	1:3	1:4	1:4
12	Pavement Cross-slope (%)	2.5	2.5	2.5	2.5	2.5
13	Min. Stopping Sight Distance (ft)	305	360	425	495	570
14	Maximum Superelevation (%)	4	4	4	6	6
15	Minimum Radius (ft) <sup>6,7</sup>					
	(a) With normal crown (-2.5% cross-slope)	700	1,000	16,700	19,700	22,880
	(b) With 2.5% superelevation	550	750	3,500	5,250	6,280
	(c) With full superelevation	500	700	1,000	1,100	1,400
16	Maximum Grade (%)	7	6	6	5	5
17	Minimum Vertical Clearance (ft) <sup>8</sup>	16	16	16	16	16
18	Minimum Clear Zone (ft)					
	(a) From edge of through travel lane	18 <sup>9</sup>	24 <sup>9</sup>	28 <sup>10</sup>	22	30
	(b) Outside from back of curb (when curb is used)	6 (min) – 16 (des) <sup>11</sup>	6 (min) – 22 (des) <sup>11</sup>	19 <sup>10</sup>	13	21
	(c) Median from back of curb <sup>12</sup> (when curb is used)	4 (min) – 12 (des)	4 (min) – 18 (des)	8 (min) – 17 (des)	8 (min) – 17 (des)	8 (min) – 25 (des)
19	Bridge Design Live Load <sup>13</sup>	AASHTO	AASHTO	AASHTO	AASHTO	AASHTO
20	Width of Bridges (minimum) (face to face of bridge rail at gutter line) (ft)					
	(a) Curbed facilities (without sidewalks)	Traveled <sup>14</sup> way plus 8'	Traveled <sup>14</sup> way plus 8'	Roadway width	Roadway width	Roadway width
	(b) Shoulder facilities	Roadway width	Roadway width	Roadway width	Roadway width	Roadway width
21	Guardrail Required at Bridge Ends	<sup>14</sup>	<sup>14</sup>	Yes	Yes	Yes

Approved   
Chief Engineer

12-4-09  
Date

# LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

## Footnotes for Minimum Design Guidelines for Urban Arterial Roads and Streets

- 1- Level of service D allowable in heavily developed urban areas.
- 2- Curb may be used in place of shoulders on UA-1 and UA-2 facilities. If used on UA-3, UA-4, or UA-5 facilities, curb should be placed at the edge of shoulder. For design speeds greater than 45 mph, curb will not be placed in front of guardrail.
- 3- With Chief Engineer's approval, curb offsets may be eliminated and the minimum median width can be reduced to 4 feet. On principal arterials, particularly at intersections, the upper limit should be considered.
- 4- Cannot be used on multilane roadways (with four or more through lanes) without the Chief Engineer's approval.
- 5- Sidewalks must be separated from the shoulder and should be placed as near the right of way line as possible. On high speed facilities, they should preferably be placed outside the minimum clear zone shown in item 18.
- 6- It may be necessary to increase the radius of the curve and/or increase the shoulder width (maximum of 12 feet) to provide adequate stopping sight distance on structure.
- 7- The following radii apply at divisional islands. The radius selected must match the design speed of the road. These radii also apply to the other guidelines where divisional islands are mentioned.

Design Speed	Radius (rounded)	Degree of Curve	Design Speed	Radius (rounded)	Degree of curve
20 mph	1,450'	4°	40 mph	2,900'	2°
25 mph	1,650'	3° 30'	45 mph	3,850'	1° 30'
30 mph	1,950'	3°	50 mph	5,750'	1°
35 mph	2,300'	2° 30'	55 & 60 mph	11,500'	0° 30'

- 8- An additional 6 inches should be added for additional future surfacing.
- 9- Applies to facilities with shoulders. Refer to the Roadside Design Guide when 1:3 fore slopes are used or for slopes flatter than 1:4.
- 10- The distance may be reduced by 6 feet if 1:6 slopes are used. For outside shoulders wider than 8 feet, further reduction should be proportional to the added shoulder width.
- 11- If outside shoulders and curb are used, refer to the Roadside Design Guide.
- 12- Where left turn lanes are provided or where the median is less than 6 feet in width, the minimum clearance will be 1.5 feet from back of curb. For median slopes steeper than 1:6, refer to the Roadside Design Guide for the desirable clear zone.
- 13- LRFD for bridge design.
- 14- Refer to EDSM II.3.1.4 when sidewalks will be provided and for guardrail requirements.

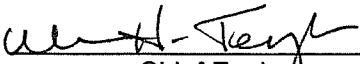
### General Note:

DOTD pavement preservation minimum design guidelines or 3R minimum design guidelines (separate sheets) shall be applicable to those projects for which the primary purpose is to improve the riding surface.

**LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT**  
**Minimum Design Guidelines for Suburban Arterial Roads and Streets**

State law requires that the state highway system conform to these guidelines.

Item No.	Item	Suburban <sup>1</sup>	
		SA-1	SA-2
1	Design Speed (mph)	50	55
2	Level of Service	C	C
3	Number of Lanes	2 (min) – 4 (typ)	2 (min) – 4 (typ)
4	Width of Travel Lanes (ft)	12	12
5	Width of Shoulders (minimum) (ft) <sup>2</sup>		
	(a) Inside on multilane facilities	4	4
	(b) Outside	8	8
6	Shoulder Type	Paved	Paved
7	Parking Lane Width (ft)	N/A	N/A
8	Width of Median on Multilane Facilities (ft)		
	(a) Depressed	30 – 42	42
	(b) Raised	30	30
	(c) Two way left turn lane	N/A	N/A
9	Width of Sidewalk (minimum) (where used) (ft) <sup>3</sup>		
	(a) When offset from curb	4	4
	(b) When adjacent to curb	N/A	N/A
10	Fore slope (vertical – horizontal)	1:4 – 1:6	1:6
11	Back slope (vertical – horizontal)	1:3	1:4
12	Pavement Cross-slope (%)	2.5	2.5
13	Minimum Stopping Sight Distance (ft)	425	495
14	Maximum Superelevation (%)	4	6
15	Minimum Radius (ft) <sup>4, 5</sup>		
	(a) With normal crown (-2.5% cross-slope)	16,700	19,700
	(b) With 2.5% superelevation	3,500	5,250
	(c) With full superelevation	1,000	1,100
16	Maximum Grade (%)	4 <sup>6</sup>	4
17	Minimum Vertical Clearance (ft) <sup>7</sup>	16	16
18	Minimum Clear Zone (ft)		
	(a) From edge of through travel lane	20 – 28 <sup>8</sup>	24
	(b) Outside from back of curb (when curb is used)	10 (1:6) 18 (1:4)	14
	(c) Median from back of curb (when curb is used)	12	18
19	Bridge Design Live Load <sup>9</sup>	AASHTO	AASHTO
20	Width of Bridges (minimum) (face to face of bridge rail at gutter line) <sup>10</sup>		
	(a) Curbed facilities (without sidewalks)	Roadway width	Roadway width
	(b) Shoulder facilities	Roadway width	Roadway width
21	Guardrail Required at Bridge Ends	Yes	Yes

Approved   
Chief Engineer

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Date

# LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

## Footnotes for Minimum Design Guidelines for Suburban Arterial Roads and Streets

1. These guidelines may be used only on a rural roadway section that adjoins a roadway section currently classified as urban. The classification selected should be based on the posted speed.
2. If curb is used, it shall be placed at the edge of shoulder on two lane facilities and 1 foot beyond the edge of the shoulders on multilane facilities. However, see EDSM II.2.1.7. Curb will not be placed in front of guardrail.
3. Sidewalks must be separated from the shoulder and should be placed as near the right of way line as possible. They should desirably be placed outside the minimum clear zone shown in Item 18.
4. It may be necessary to increase the radius of the curve and/or increase the shoulder width (maximum of 12 feet) to provide adequate stopping sight distance on structure.
5. Different radii apply at divisional islands. See Footnote 7 for "Minimum Design Guidelines for Urban Arterial Roads and Streets.
6. Grades 1 percent higher are permissible in rolling terrain.
7. An additional 6 inches should be added for additional future surfacing.
8. Use the larger value when 1:4 fore slopes are used.
9. LRFD for bridge design
10. For roadways with shoulders and curbs, consider widening each bridge 8 feet to allow for a future lane and 4 foot offsets to bridge rail.

### General Note:


DOTD pavement preservation minimum design guidelines or 3R minimum design guidelines (separate sheets) shall be applicable to those projects for which the primary purpose is to improve the riding surface.



**LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT**  
**Minimum Design Guidelines for Rural Collector Roads**

State law requires that the state highway system conform to these guidelines.

Item No.	Item	Rural		
		RC-1	RC-2	RC-3
1	Average Daily Traffic <sup>1</sup>	Under 400	400 – 2000	Over 2000
2	Design Speed (mph)	40 – 60 <sup>2</sup>	50 – 60 <sup>2</sup>	60
3	Number of Lanes	2	2	2 – 4 <sup>3</sup>
4	Width of Travel Lanes (ft)	11	11 – 12 <sup>4</sup>	12
5	Width of Shoulders (ft)			
	(a) Inside on multilane facilities	N/A	N/A	4
	(b) Outside	2 <sup>5</sup>	4 – 5 <sup>6</sup>	8
6	Shoulder Type	Paved	Aggregate (2' min paved)	Aggregate (2' min paved) <sup>7</sup>
7	Width of Parking Lanes (ft)	N/A	N/A	N/A
8	Width of Median on multilane facilities (ft)			
	(a) Depressed	N/A	N/A	42 – 60
	(b) Raised	N/A	N/A	N/A
	(c) Two way left turn lane	N/A	N/A	N/A
9	Width of Sidewalk (minimum) (ft)			
	(a) When offset from curb	N/A	N/A	N/A
	(b) When adjacent to curb	N/A	N/A	N/A
10	Fore Slope (vertical – horizontal)	1:4	1:4	1:6
11	Back Slope (vertical – horizontal)	1:4 <sup>8</sup>	1:4	1:4
12	Pavement Cross Slope (%)	2.5	2.5	2.5
13	Min. Stopping Sight Distance (ft)	305 (40 mph) 425 (50 mph) 570 (60 mph)	425 (50 mph) 570 (60 mph)	570
14	Maximum Superelevation (%) <sup>9</sup>	10	10	10
15	Minimum Radius (ft) <sup>10</sup> (with full superelevation)	450 <sup>11</sup>	700 <sup>12</sup>	1,100
16	Maximum Grade (%)	7 (40 mph) 6 (50 mph) 5 (60 mph)	6 (50 mph) 5 (60 mph)	5
17	Minimum Vertical Clearance (ft) <sup>13</sup>	15	15	15
18	Minimum Clear Zone (ft) (from edge of through travel lane)	10, 14, 24 <sup>14</sup>	26 (50 mph) 32 (60 mph)	30
19	Bridge Design Live Load <sup>15</sup>	AASHTO	AASHTO	AASHTO
20	Minimum Width of Bridges (face to face of bridge rail at gutter line) (ft)	30	Roadway width	Roadway width

Approved   
Chief Engineer

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Date

# LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

## Footnotes for Minimum Design Guidelines for Rural Collector Roads

- 1- Current traffic may be used to determine the appropriate classification.
- 2- The design speed may not be less than the current posted speed of the overall route.
- 3- For rolling terrain, limited passing sight distance and high percentage of trucks, further analysis should be made to determine if additional lanes are required when ADT is above 7,000.
- 4- For design speeds greater than 50 mph and ADT greater than 1,500 use 12-foot lanes.
- 5- Where bicycle activity is observed, a 4-foot shoulder should be provided.
- 6- For ADT greater than 1,500 use 6 foot shoulders.
- 7- For ADT of 5,000 or greater, a minimum of 4 foot must be paved.
- 8- 1:3 back slopes are allowed where right-of-way restrictions dictate.
- 9- In Districts 04 and 05, where ice is more frequent, superelevation should not exceed 8 percent from the  $e_{max} = 10\%$  table.
- 10- It may be necessary to increase the radius of the curve and/or increase the shoulder width (maximum of 12 feet) to provide adequate stopping sight distance on structure.
- 11- Radius based on 40 mph. Radii for 50 mph and 60 mph are shown under the RC-2 and RC-3 classifications respectively.
- 12- Radius based on 50 mph. The radius for 60 mph is shown under the RC-3 classification.
- 13- Where the roadway dips to pass under a structure, a higher vertical clearance may be necessary. An additional 6 inches should be added for additional future surfacing.
- 14- The lower value is based on a 40 mph design speed, the middle value for 50 mph and the upper value for 60 mph.
- 15- LRFD for bridge design.

### General Note:

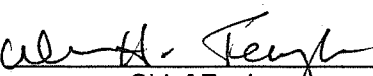
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**LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT**  
**Minimum Design Guidelines for Urban and Suburban Collector Roads and Streets**

State law requires that the state highway system conform to these guidelines.

Item No.	Item	Urban		Suburban <sup>1</sup>		
		UC-1	UC-2	SC-1	SC-2	SC-3
1	Average Daily Traffic	N/A	N/A	N/A	N/A	N/A
2	Design Speed (mph)	30 – 40	45	40	45	50
3	Number of Lanes (minimum)	2 – 4	2 – 4	2 – 4	2 – 4	2 – 4
4	Width of Travel Lanes (ft)	11 – 12	12 <sup>2</sup>	11	11	11 – 12 <sup>2</sup>
5	Width of Shoulders (ft)					
	(a) Inside on multilane facilities	N/A	N/A	N/A	N/A	4 <sup>3</sup>
	(b) Outside	8 <sup>2, 4</sup>	8 <sup>2, 4</sup>	4 – 5 <sup>4</sup>	4 – 5 <sup>4</sup>	6, 8 <sup>5</sup>
6	Shoulder Type	Paved	Paved	Paved	Paved	Paved
7	Width of Parking Lanes (where used) (ft)	7 – 10 <sup>6</sup>	11	7 – 10 <sup>6</sup>	11	N/A
8	Width of Median on multilane facilities (ft)					
	(a) Depressed	N/A	N/A	N/A	N/A	30
	(b) Raised	4 (min) – 30 (des)	4 (min) – 30 (des)	4 (min) – 30 (des)	4 (min) – 30 (des)	26
	(c) Two way left turn lane	11 – 14 typ. <sup>7</sup>	11 – 14 typ. <sup>7</sup>	11 – 14 typ. <sup>7</sup>	11 – 14 typ. <sup>7</sup>	N/A
9	Width of Sidewalk (minimum) (where used) (ft) <sup>8</sup>					
	(a) When offset from curb	4	4	4	4	4
	(b) When adjacent to curb	6	6	6	6	N/A
10	Fore Slope (vertical – horizontal)	1:3 – 1:4 <sup>9</sup>	1:3 – 1:4 <sup>9</sup>	1:4	1:4	1:4
11	Back Slope (vertical – horizontal)	1:3 <sup>10</sup>	1:3	1:3	1:3	1:3
12	Pavement Cross Slope (%)	2.5	2.5	2.5	2.5	2.5
13	Min. Stopping Sight Distance (ft)	200 (30 mph) 305 (40 mph)	360	305	360	425
14	Maximum Superelevation (%)	4	4	4	4	6
15	Minimum Radius (ft) <sup>11, 12</sup>					
	(a) With normal crown (-2.5% cross slope)	325 (30 mph) 700 (40 mph)	1,000	700	1,000	16,700
	(b) With 2.5% superelevation	250 (30 mph) 550 (40 mph)	750	550	750	4,400
	(c) With full superelevation	235 (30 mph) 500 (40 mph)	700	500	700	900
16	Maximum Grade (%)	9	8	7	6	6
17	Minimum Vertical Clearance (ft) <sup>13</sup>	15	15	15	15	15
18	Minimum Clear Zone (ft)					
	(a) From edge of through travel lane	10	10	10	10	26 – 28 <sup>14</sup>
	(b) Outside from back of curb (when curb is used)	1 (min) – 6 (des)	6 (min) – 8 (des)	1 (min) – 6 (des)	6 (min) – 8 (des)	17 – 19 <sup>15</sup>
	(c) Median from back of curb (when curb is used)	1 (min) – 6 (des)	1 (min) – 8 (des)	1 (min) – 6 (des)	1 (min) – 8 (des)	13
19	Bridge Design Live Load <sup>16</sup>	AASHTO	AASHTO	AASHTO	AASHTO	AASHTO
20	Minimum Width of Bridges (face to face of bridge rail at gutter line)					
	(a) Curbed facilities (without sidewalks)	Traveled <sup>17</sup> way plus 8'	Traveled <sup>17</sup> way plus 8'	Traveled <sup>17</sup> way plus 8'	Traveled <sup>17</sup> way plus 8'	Roadway width
	(b) Shoulder facilities	Roadway width	Roadway width	Roadway width	Roadway width	Roadway width
21	Guardrail Required at Bridge Ends	<sup>17</sup>	<sup>17</sup>	<sup>17</sup>	<sup>17</sup>	Yes

Approved

  
Chief Engineer

12-4-09  
Date

## LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

### Footnotes for Minimum Design Guidelines for Urban and Suburban Collector Roads and Streets

- 1- These guidelines may be used only on a rural roadway section that adjoins a roadway section currently classified as urban. The classification selected should be based on the posted speed.
- 2- For ADT less than 2,000 refer to Exhibit 6-5 on page 425 in the '2004 AASHTO Policy on Geometric Design of Highways and Streets'.
- 3- Applicable to depressed medians only.
- 4- Curb may be used instead of shoulder. Where bicycle activity is observed, a bike lane should be considered.
- 5- If curb will not be used, shoulder widths may be reduced, see Footnote 2. When curb is used on mainline facilities, it shall be placed at the edge of shoulder. When curb is used on 2-lane facilities, 8 foot shoulders will be required if a future center turn lane will be added. Curb will not be placed in front of guardrail.
- 6- Seven and 8-foot widths are limited to residential areas for 30 and 40 mph respectively.
- 7- Cannot be used on multilane roadways (with four or more through lanes) without Chief Engineer's approval.
- 8- If shoulders are used, sidewalks should be separated from shoulder.
- 9- Where shoulders are used, 1:4 minimum fore slopes are required through the limits of minimum clear zone.
- 10- 1:2 back slopes are allowed where right of way restrictions dictate.
- 11- It may be necessary to increase the radius of the curve and/or increase the shoulder width (maximum of 12 feet) to provide adequate stopping sight distance on structure.
- 12- Different radii apply at divisional islands. See Footnote 7 for "Minimum Design Guidelines for Urban Arterial Roads and Streets".
- 13- Where the roadway dips to pass under a structure, a higher vertical clearance may be necessary. An additional 6 inches should be added for additional future surfacing.
- 14- The higher value is applicable to roadways with an ADT greater than 6,000.
- 15- These values apply to roadways with 8-foot shoulders. For outside shoulders less than 8 feet, further increase should be proportional to the reduced shoulder width.
- 16- LRFD for bridge design.
- 17- Refer to EDSM II.3.1.4 when sidewalks will be provided and for guardrail requirements.

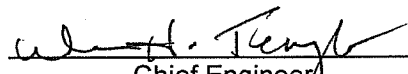
#### General Note:

DOTD pavement preservation minimum design guidelines or 3R minimum design guidelines (separate sheets) shall be applicable to those projects for which the primary purpose is to improve the riding surface.

**LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT**  
**Minimum Design Guidelines for Local Roads and Streets**

State law requires that the state highway system conform to these guidelines.

Item No.	Item	Rural			Urban	
		RL-1	RL-2	RL-3	UL-1	UL-2
1	Design Speed (mph) <sup>1</sup>	30	40	50	20	30
2	Average Daily Traffic	0 – 250	250 – 400	Over 400	N/A	N/A
3	Typical Number of Lanes	2	2	2	2	2
4	Minimum Width of Travel Lanes (ft)	9	9	11 – 12 <sup>2</sup>	10 – 11 <sup>3</sup>	10 – 11 <sup>3</sup>
5	Minimum Width of Shoulders (ft) <sup>4</sup>	2	2	5 – 8 <sup>5</sup>	When used <sup>6</sup>	When used <sup>6</sup>
6	Shoulder Type	Aggregate	Aggregate	Aggregate	Paved	Paved
7	Minimum Width of Parking Lanes (where used) (ft)	N/A	N/A	N/A	7 – Residential 8 – Industrial	7 – Residential 8 – Industrial
8	Minimum Width of Sidewalk (where used) (ft)					
	(a) When offset from curb	N/A	N/A	N/A	4	4
	(b) When adjacent to curb	N/A	N/A	N/A	6	6
9	Fore Slope (vertical – horizontal)	1:3 <sup>7</sup>	1:3 <sup>7</sup>	1:4	1:3	1:3
10	Back Slope (vertical – horizontal)	1:2	1:2	1:3	1:2	1:2
11	Pavement Cross Slope (%)	2.5	2.5	2.5	2.5	2.5
12	Min. Stopping Sight Distance (ft)	200	305	425	115	200
13	Maximum Superelevation (%)	10 <sup>8</sup>	10 <sup>8</sup>	10 <sup>8</sup>	4	4
14	Minimum Radius (ft) <sup>9, 10</sup>					
	(a) With normal crown (-2.5% cross slope)	7,585	11,625	16,700	100	325
	(b) With 2.5% superelevation	1,930	3,250	5,000	85	250
	(c) With full superelevation	250	450	700	80	235
15	Maximum Grade (%) <sup>11</sup>	7	7	6	10	9
16	Minimum Vertical Clearance (ft)	15	15	15	15	15
17	Minimum Clear Zone (ft)					
	(a) From edge of through travel lane	10 <sup>7</sup>	10 <sup>7</sup>	Varies <sup>12</sup>	7 – Shoulder facilities	10 – Shoulder facilities
	(b) From back of curb (when curb is used)	N/A	N/A	N/A	1 (min) – 6 (des)	1 (min) – 6 (des)
18	Bridge Design Live Load <sup>13</sup>	AASHTO	AASHTO	AASHTO	AASHTO	AASHTO
19	Minimum Width of Bridges (face to face of bridge rail at gutter line)	Traveled way plus 4'	Traveled way plus 4'	Traveled way plus 6' <sup>14</sup>	Traveled way plus 8' <sup>15, 16</sup>	Traveled way plus 8' <sup>15, 16</sup>
20	Bridge End Treatment	Yes	Yes	Yes	<sup>16</sup>	<sup>16</sup>

Approved   
Chief Engineer

12-4-09  
Date

# LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

## Footnotes for Minimum Design Guidelines for Local Roads and Streets

- 1- The design speed may not be less than the current posted speed of the overall route.
- 2- For ADT greater than 2,000, use 12-foot lane widths.
- 3- Lane widths in residential areas may be reduced to 9 feet if necessary. Twelve foot lane widths are preferred in industrial areas.
- 4- Where bicycle activity is prevalent, a paved 4-foot shoulder should be provided.
- 5- For ADT less than 1,500, the minimum shoulder width may be reduced to 4 feet if necessary. For ADT 1,500 to 2,000, use 6-foot shoulders. For ADT over 2,000, use 8-foot shoulders.
- 6- Select the shoulder width that corresponds to the ADT shown in the rural local road guidelines.
- 7- The value shown should be provided on new roadways. A lesser value may be used on existing roads depending on soil stability, right-of-way constraints, the safety record of the road, and the size vehicles using the road. Guidance is available in the AASHTO publication titled 'Guidelines for Geometric Design of Very Low Volume Local Roads (ADT  $\leq$  400)'.
- 8- In Districts 04 and 05, where ice is more frequent, superelevation should not exceed 8 percent from the  $e_{max} = 10\%$  table.
- 9- It may be necessary to increase the radius of the curve and/or increase the shoulder width (maximum of 12 feet) to provide adequate stopping sight distance on structure.
- 10- On roadways with an ADT  $\leq$  400, a sharper radius may be used on fully superelevated roadways if necessary. For specific values refer to the AASHTO publication titled 'Guidelines for Geometric Design of Very Low Volume Local Roads (ADT  $\leq$  400)'. Different radii apply at divisional islands.
- 11- Grades 2 percent higher may be used in rural rolling terrain.
- 12- Varies from 14 feet to 28 feet. Refer to the Roadside Design Guide for the applicable value. For spot replacement projects refer to footnote 7.
- 13- LRFD for bridge design.
- 14- For ADT greater than 2,000, use roadway width.
- 15- Refer to EDSM II.3.1.4 when sidewalks will be provided and for guardrail requirements.
- 16- When shoulders are provided, the minimum bridge width shall be the larger of that shown or the roadway width.

### General Local Road Notes:

These guidelines shall not apply to:

- a. Dead end roads (open at one end only).
- b. Roads that are dependent on dead end roads for access.

Urban guidelines may be applied to any street for which curb is to be used and the posted speed is less than 50 mph, or any street for which a posted speed of 30 mph or less would be appropriate.

On spot replacement projects the existing geometry and superelevation may remain providing there are no safety problems.

The appropriate local governing body is authorized to make design exceptions for specific items listed in these guidelines, with proper engineering justification.

### General Note:

DOTD pavement preservation minimum design guidelines or 3R minimum design guidelines (separate sheets) shall be applicable to those projects for which the primary purpose is to improve the riding surface.